

GP Kangra

TRAINING PROCESS ADEQUACY
FACULTY REPORT

1 Department ECE
 Teacher's Name Nishant Kaurhal
 Course Program Core Duration 6 Months From 6 August To 28 Nov, 2026
 Subject Mobile and Wireless Total no of period 56

2 Report:

- Delivery needs: - Adequate/ Less then adequate (give details)
- Improvements recommended-

Date 1/8/2026

[Signature]
 Faculty/ Instructor

3 Comments and recommendation:

Date 1/8/2026

[Signature]
 HOD

4 Decision /directions:

Date _____

[Signature]
 Principal

To be approved from concerned HOD within seven days from beginning of semester & will be kept with the concerned teacher in his file.

GP Kangra

TRAINING PROCESS ADEQUACY FACULTY REPORT

1 Department ECE

Teacher's Name Nishant Kaushal

Course Open elective Duration 6 Months From 6 August 2026 To 28 Nov. 2026

Subject Optical Communication and networking Total no of period 56

2 Report:

▪ Delivery needs: - Adequate/ Less then adequate (give details)

▪ Improvements recommended-

Date 1/8/2026

[Signature]
Faculty/ Instructor

3 Comments and recommendation:

Date 1/8/2026

[Signature]
HOD

4 Decision /directions:

Date _____

[Signature]
Principal

PLANNED SYLLABUS COVERAGE(Theory)

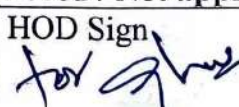
G P Kangra		Department: <u>ECE</u>		Subject <u>Optical Comm. and Networking</u>		
SYLLABUS COVERAGE		Course <u>Program Elective</u>		Duration <u>6 Month</u>		
		Total Periods <u>56</u>		Theory <u>56</u>		
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.	1-8	Introduction	Historical perspective, Basic optical fibre Comm. System, Advantages and Disadvantages of optical Communication, Application of optical fiber Communication, Electromagnetic Spectrum, optical frequency range, Principle of light propagation, reflection, Concept of critical frequency.	optical fiber communication by John M. Senior PHI publication.		
2.	9-18	Optical fiber and Cable	Constructional Detail of various optical fiber, Multimode and Monomode fiber, SI and graded Index fiber, N.A. Acceptance angle, types of optical fiber cable.	do	do	
3.	19-32	Losses in optical fiber	Absorption losses, Scattering losses, Radiation losses, Connector losses, bending losses, Dispersion, types of losses and its effect on data rate.	do	do	

To be approved from concerned HOD within seven days from beginning of semester & will be kept with the concerned teacher in his file.

Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
4	33-37	Optical Sources	Testing of losses using OTDR. Characteristics of light in OFC, principle of operation of LED, types of LED structures and description, Injection laser diode, principle of operation, different injection laser diode, Comparison of LED and ILD.	do	do	
5.	38-44	Optical Detector	Characteristics of photo-detector, Used in optical communication, PN photodiode, PIN photodiode, APD.	do	do	

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

Approved / Not approved	
Date 11/8/2016	HOD Sign 
Date	Principal Sign 

Use additional sheets (if required).

Department: **ECE**

Practical Planning & Coverage Status

Course: **Program Elective**Laboratory: **Coverage Status**
Subject: **Optical Comm. and networking**

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	HOD Sign.	Remarks
		Equipment Set up	STD Ref. Write up					
1.	Setting up of fiber analog. link.	Standard bit	Q1	Q2				
2.	Setting up of digital link	do	do	Q1 Q2				
3.	Measurement of bending losses in optical fiber	do	do	Q1 Q2				
4.	To measure and calculate loss of optical fiber	do	do	Q1 Q2				
5.	To observe the characteristics of LED source and detector	do	do	Q1 Q2				
6.	To demonstrate the splicing of optical fiber	do	do	Q1 Q2				
7.	Demonstration of various components and tools used in optical fiber communication.	do	do	Q1 Q2				

Approved/ Not approved

HOD Sign with date

Principal Signature with date

GP Kangra

GPK-F-23

TRAINING PROCESS ADEQUACY
FACULTY REPORT

- 1 Department Electronics and Communication
Teacher's Name Nishant Kaushal
Course Open elective (✓) Program Elective Duration 6 Months From 6 August 2026 To 28 Nov 2026
Subject Renewable energy Technology Total no of period 56
2 Report: Technology
▪ Delivery needs: - Adequate/ Less then adequate (give details)

- Improvements recommended-

Date 1/8/2026

[Signature]
Faculty/ Instructor

- 3 Comments and recommendation:

Date 1/8/2026

[Signature]
HOD

- 4 Decision /directions:

Date _____

[Signature]
Principal

PLANNED SYLLABUS COVERAGE(Theory)

G P Kangra		Department: <u>ECE</u> Subject <u>Renewable Energy Technologies</u>				
		Course <u>Dipen Elective</u> , Duration <u>6 Month</u>				
SYLLABUS COVERAGE		Total Periods <u>56</u> Theory <u>56</u>				
Sr. No.	Period Nos.	Topic	Detail	Instruction Reference	Additional Study Recommended	Remarks
1.	1-8	Introduction	World energy use, Reserves of energy resources, Environmental aspect of energy utilization, Renewable energy scenario in India, and around the world potential achievements of application, economics of renewable energy sources.	Energy technologies by O.P. Gupta		
2.	9-18	Solar Energy	Solar radiation, Measurement Flatplate, Concentrating Collector, solar direct thermal applications Solar thermal power generation, fundamental of solar photoelectric Conversion Solar cell, solar PV generation Solar PV applications.			
3.	19-30	Wind Energy	Wind data and Energy Estimation, types of WECS, performances, Site selection, Detail of wind turbine generator. Safety and environmental aspects.			

To be approved from concerned HOD within seven days from beginning of semester & will be kept with the concerned teacher in his file.

Sr. No.	Period No.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
4.	'21-40	Bio Energy	Biomass direct Combustion, genetics, Biogas plant, Digesters, Ethanol production, Biodiesel, Cogeneration, Biomass application.			
5.	41- 56	Other renewable Energy Sources.	Tidal Energy, Wave energy, open and Closed OTEC cycles. Small Hydro-geothermal energy, Hydrogen storage fuel, cell system, Hybrid system.			

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

Approved / Not approved	
Date 11/8/2026	HOD Sign <i>[Signature]</i>
Date	Principal Sign <i>[Signature]</i>

PLANNED SYLLABUS COVERAGE(Theory)

GPB-F-17

GPB-F-23

GP Kangra

TRAINING PROCESS ADEQUACY FACULTY REPORT

1 Department Electronics & Communication Engg.
Teacher's Name Rohit Kumar
Course Diploma Duration 3 years From 01/8/26 To 31/12/26
Subject Embedded System Total no of period T-56.

2 Report:

- Delivery needs: - Adequate/ Less then adequate (give details) Adequate.
- Improvements recommended-

Date 01/08/2026.

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Faculty/ Instructor

3 Comments and recommendation:

Date 01/08/2026.

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4 Decision /directions:

Date 01/08/2026.

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PLANNED SYLLABUS COVERAGE(Theory)

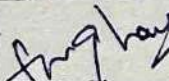
G P		Department: <u>ECE</u>		Subject <u>Embedded System</u>		
Kangra		Course <u>Diploma</u>		Duration <u>3 years</u>		
SYLLABUS		Total Periods		Theory <u>-56 P</u>		
COVERAGE						
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.		Unit-1	Embedded C basic operations for Arduino. Familiarizing with the Arduino IDE, sketch design for Arduino. Communication interface using serial port. Basic understanding of the code with bitwise operations, pointer access operations, bitwise operations, compound operations.	Arduino projects (for Dummies series) George Kennedy & Davis Bernard.	Getting started with Arduino open source.	
2.		Unit-2	Embedded C control structure blocks, Looping mechanism, - for, do and while. The branching operations based on condition expressions.	- do -	- do -	
3.		Unit-3	Introduction to Arduino Mega, Arduino Mega specifications including power ratings digital & Analog peripherals. Difference between C language & Embedded C language. Arduino Mega port pins, Digital & Analog peripherals.	- do -	- do -	

G P Kangra
Practical Planning & Coverage Status

Department: ECE
Course: Diploma.

Laboratory: Embedded System
Subject: Embedded System

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility
		Equipment Set up	STD Ref. Write up			
1.	Built in LED state control by push button sketch implementation.	Arduino Kit	Arduino Kit			
2.	Built in LED blinking sketch implementation. or Built in LED blinking by toggling state based on binary operation.	-do-	-do-			
3.	Built in LED state control by user interface through serial port.	-do-	-do-			
4.	User interface for Boolean operation and bit wise operation through serial port.	-do-	-do-			
5.	User operation interface for compounded operation through serial port.	-do-	-do-			
6.	Looping mechanism to check the state of Pin and if change print its state on serial port.	-do-	-do-			

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 01/08/2026
HOD Sign with date

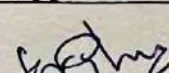
Practical Planning & Coverage Status

Department: ECE
Course: Diploma.

Laboratory:
Subject: Embedded System.

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date
		Equipment Set up	STD Ref. Write up		
7.	Controlling multiple LEDs with arrays and loop.	Arduino Kit	Arduino Kit		
8.	Use potentiometer to control the blinking of an LED.	- do -	- do -		
9.	Use an analog O/P (PWM) pin to fade an LED.	- do -	- do -		
10.	Servo Motor Control using PWM.	- do -	- do -		
11.	Temperature sensor interfacing and sending its reading over serial port.	- do -	- do -		
12.	I2C Light sensor interfacing and sending its reading over serial port.	- do -	- do -		

Approved/ Not approved

 01/08/2020.
HOD Sign with date

PLANNED SYLLABUS COVERAGE(Theory)

G P Kangra		Department: <u>E&CE</u> Subject <u>Industrial Automation</u>				
		Course <u>Program Elective-III</u> Duration <u>6 months</u>				
SYLLABUS COVERAGE		Total Periods <u>56</u> Theory <u>T=56</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	18	Unit 1	- Industrial Automation Overview & Data acquisition - Architecture of Industrial Automation. - Measurement system Characteristics. - Data Acquisition system.	A.K. Sanyal	internet	
2	14	Unit 2	- Control system - Introduction to automatic control - PID Control. - Feed-forward control. - The branching operation Based on Condition Expression			
3	12	Unit 3	- Sequential Control & PLC - Introduction to Sequence Control. - PLC - PLC RLL - PLC H.W Environment.			

4	12	unit 4	Energy Saving water, voltage Speed driving Introduction to CNC. M/Cs.		
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Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

Approved / Not approved	
Date 11/11/20	HOD Sign 
Date	Principal Sign 

Use additional sheets (if required).

G P Kangra
Practical Planning & Coverage Status
Laboratory: Industrial Automation Lab.
Subject: Industrial Automation

Department: **ECE**
 Course: **Program Core**

Sr. No.	Details of Practical			Actual Date	Responsibility	HOD Sign.	Remark
	Availability of	Equipment	STD Ref. Write up				
1	PC, Arduino & Manual	PC, Arduino & Manual	Q1	Q2	Q1	Q2	Develop a data acquisition system using Arduino etc.
2			Q1	Q2	Q1	Q2	Temperature control system using PID
3			Q1	Q2	Q1	Q2	Level control system based on error feedback
4			Q1	Q2	Q1	Q2	PLC programming using relay ladder logic for motor
5			Q1	Q2	Q1	Q2	PLC, RLL program using cascade method
6			Q1	Q2	Q1	Q2	PLC Tuning, counts registers analog input/output
7			Q1	Q2	Q1	Q2	Variable speed drive of an induction motor
8			Q1	Q2	Q1	Q2	PLC/Microcontroller based computer controlled control machine job completion

Principal Signature with date

Approved/Not approved
 HOD Sign with date

GP Kangra

Practical Planning & Coverage Status

Department: ECE

Course:

Program Core

Laboratory: Communication Engg.
Subject: Mobile and Wireless Comm.

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	Signature
		Equipment Set up	STD Ref. Write up				
1.	To understand the cellular standard frequency reuse concept to find co-channel cells for particular frequency. task.	Kit Simulation videar	e-wire up	G1 G2			
2.	To understand path loss.	do	do	G1 G2			
3.	Understand path loss with shadowing	do	do	G1 G2			
4.	Understand the flat fading.	do	do	G1 G2			
5.	Understand the frequency selective fading	do	do	G1 G2			
6.	Understand multipath channel for following objective. 1. No fading 2. Flat fading 3. Dispersive fading.	do	do	G1 G2			

Approved/ Not approved

HOD Sign with date
11/11/2016

Principal Signature with date

Department: ECE

Course: Program Core

Laboratory:

Subject:

Communication Lab
Mobile and Wireless Communication

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	HOD Sign.
		Equipment Set up	STD Ref. Write up				
7.	To simulate the dipole antenna $A, \lambda/4, \lambda/2$ for particular frequency using 4NEC2 standard	Standard Kit or simulation video or	Standard write up	G1 G2			
8.	Perform following experiment using COMET kit (1) PSK modulation and Demodulation. (2) Bit Synchronization extraction experiment (3) Error Correction Coding experiment.	do	do	G1 G2			

Approved/ Not approved

HOD Sign with date
18/12/2020

Principal Signature with date